REMARKS/ARGUMENTS

Favorable consideration of this Application and in light of the following discussion is respectfully requested.

Claims 3-5, 8-13 and 15-19 are pending in the present application. Claims 1, 6 and 14 are cancelled and Claims 3-5, 8-13 and 15-19 are amended by the present amendment without the introduction of any new matter. Support for the amendments to the claims can be found in the specification as originally filed.

In the outstanding Office Action, Claims 1, 3, 4, 6, 8, 9, 11-14, 16 and 17 were rejected under 35 U.S.C. §103(a) as unpatentable over Applicants admitted prior art (herein AAPA) in view of Tamagawa et al. (JP 2001-148371, herein "Tamagawa") and Craig A. Phelps (U.S. Pat. No. 5,724,234, herein "Phelps"); Claims 5, 10 and 15 were rejected under 35 U.S.C. §103(a) as unpatentable over AAPA, Tamagawa, and Phelps in further view of Shimamura et al. (U.S. Pat. No. 5,707,500, herein "Shimamura") as evidenced by Soloman (Article in Publication, Sensors handbook by Sabrie Soloman, Copyright 1999); Claim 15 was rejected under 35 U.S.C. §103(a) as unpatentable over AAPA, Sugihara, and Phelps in further view of Bowers et al. (U.S Pat. No. 5,680,025, herein "Bowers"); and Claims 18 and 19 were rejected under 35 U.S.C. §103(a) as unpatentable over AAPA, Tamagawa, Craig A. Phelps in further view of Hannagan et al. (U.S. Pat. No. 5,999,081, herein "Hannagan").

Applicants note that Claims 1 and 6 have been cancelled and the features recited therein have been incorporated into newly independent Claims 18 and 19, respectively.

Accordingly, Applicants respectfully traverse that rejection of Claims 18 and 19 under 35 U.S.C. §103(a) as unpatentable over AAPA, Tamagawa, Craig A. Phelps and Hannagan.

Claim 19 recites, in part,

> a conductive vessel being set to a ground potential and having a space formed therein in which a plasma is generated by application of a radio frequency power;

> a susceptor which is disposed in said conductive vessel and on which a substrate to be processed is to be placed; and
>
> a radiation thermometer for measuring a temperature of the susceptor,
>
> wherein the susceptor has a temperature measurement hole disposed at a predetermined portion for measuring a temperature of the susceptor on a rear surface side of said susceptor,
>
> wherein said conductive vessel has an opening that is formed in a portion facing the predetermined temperature measured portion and that has a size not allowing the radio frequency power to leak to an external part, and
>
> wherein said radiation thermometer detects at an external part of the opening an infrared ray emitted from the temperature measured portion to measure a temperature of said susceptor,
>
> wherein the temperature measurement hole of said susceptor has a top portion and said susceptor is formed of an aluminum so that the top portion thereof is anodized so as to act as a blackbody to the infrared ray.

Claim 18 recites similar features.

AAPA discloses a method of temperature measurement for a susceptor disposed in the conductive vessel of anodized aluminum set to ground potential and having a space formed therein in which the plasma is generated by the application of the radio frequency power at 40MHz, 60MHz or 100MHz.

However, AAPA does not describe or suggest an opening that is formed in a portion facing the predetermined temperature measured portion and that has a size not allowing the radio frequency power to leak to an external part. Further AAPA does not describe or suggest a radiation thermometer that detects, at an external part of the opening, an infrared ray emitted from the temperature measured portion to measure the temperature of said susceptor. In addition, AAPA clearly does not describe or suggest ***anodizing the top portion of the temperature measurement hole of the susceptor so as to act as a blackbody to an infrared ray***.

Tamagawa describes the use of a infrared thermometer for temperature measurement of a sample in a plasma etching chamber via a drilled hole. However, Tamagawa does not

describe or suggest ***anodizing the top portion of the temperature measurement hole of the susceptor so as to act as a blackbody to an infrared ray.***

Craig A Phelps describes that since RF power leaks through opening of a size greater than the wavelength of a radio frequency and leakage decreases linearly as the size of the opening decreases, any opening should be less than 1/20 of the wavelength of the RF power. However, Craig A Phelps does not describe or suggest ***anodizing the top portion of the temperature measurement hole of the susceptor so as to act as a blackbody to an infrared ray.***

The outstanding Action, on pages 5 and 6, relies on Hannigan as curing the above noted deficiencies of AAPA, Tamagawa, and Craig A Phelps with respect to the features of Claims 18 and 19.

Specifically, the outstanding Action states that Hannigan teaches that the blackbody surface could be achieved by anodized aluminum. However, Hannigan describes only anodizing to achieve a black aluminum oxide finish for a resistance temperature detector (RTD) housing. Hannigan in no way describes or suggests ***anodizing the top portion of the temperature measurement hole of the susceptor so as to act as a blackbody to an infrared ray.***

In addition, Hannigan is directed to a RTD technique for temperature measurement while the claimed invention recites an infrared ray technique for temperature measurement. Thus, the principle of temperature measurement in Hannigan is quite different from the principle of temperature measurement in the claimed invention and thus the generalized reference to a blackbody found in Hannagan cannot be used in combination with AAPA, Tamagawa, and Craig A Phelps to anticipate the feature of ***anodizing the top portion of the temperature measurement hole of the susceptor so as to act as a blackbody to an infrared ray.***

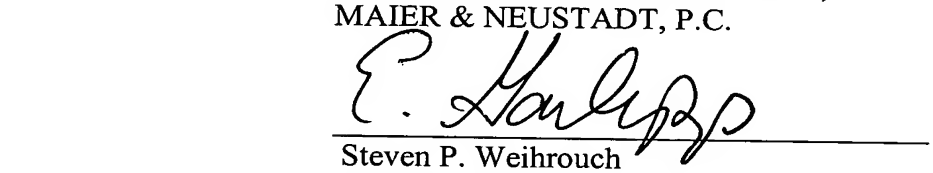
Accordingly, Applicants respectfully submit that independent Claim 19 and similarly Claim 18 patentably distinguish over AAPA, Tamagawa, Craig A Phelps and Hannagan alone or in any proper combination.

Moreover, with respect to the further dependent claims in light of the above discussion, Applicant respectfully submits that those claims also distinguish over the applied art, particularly as none of these further cited teachings to Shimamura, Soloman or Bowers are believed to overcome the above-noted deficiencies of AAPA, Tamagawa, Craig A Phelps and Hannagan.

Consequently, in light of the above discussion and in view of the present amendment, the present application is believed to be in condition for allowance and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



Steven P. Weihrouch
Attorney of Record
Registration No. 32,829

Edwin D. Garlepp
Registration No. 45,330

Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 06/04)

I:\ATTY\JL\246076US\246076US_AM(6-19-2007).DOC